

WHAT IS CLAIMED IS:

1 1. A method for testing a petroleum product produced during refining to classify said
2 product, said method comprising the steps of:

3 a) obtaining and preparing a representative sample of said product;

4 b) forming a digital image of said sample with a scanner; and

5 c) processing said digital image by extracting and filtering said digital image to
6 produce a representative lustre measurement of said sample.

1 2. A method for testing as recited in Claim 1 wherein said steps b) and c) are iterated
2 a plurality of times and including the additional step of totaling said representative lustre
3 measurement of said sample produced during each of said iterations and then averaging said total
4 to obtain an average lustre measurement of said sample.

1 3. A method for testing as recited in Claim 1 wherein said step b) of forming a digital
2 image of said sample with a scanner includes the steps of placing said sample in a cylinder having
3 a transparent end, placing said transparent end on a glass plate of said scanner, and blocking said
4 plate.

1 4. A method of testing as recited in Claim 2 further including the step of comparing said
2 average lustre measurement to established parameters to assign a coefficient of thermal expansion
3 (CTE) value to said sample to determine the CTE of said product, given historical correlation
4 between CTE and lustre measurements.

1 5. A method of testing as recited in Claim 1 further including the step of repeating all
2 previous steps for successive samples and designating each sample as to low or high CTE.

1 6. A method of testing as recited in Claim 1 further including the step of varying known
2 operating parameters during petroleum refining to alter said lustre measurement of said sample in
3 order to obtain a product with a desirable CTE.

1 7. A method for testing a petroleum product in particle form to classify said product,
2 said method comprising the steps of:

- 3 (a) placing a sample of said particles next to a calibrated optical density scale on
4 a scanner;
- 5 (b) using said scanner to produce a visible reflection image of light from said
6 sample particles and said optical density scale;
- 7 (c) creating a calibration curve of optical density versus gray scale using the
8 optical density scale image; and
- 9 (d) determining the average gray scale value of the sample image and converting
10 it to optical density using said calibration curve.

1 8. A method for testing as recited in Claim 7 wherein step (a) includes the steps of
2 placing said sample of particles in a container having at least one transparent side, and placing said
3 transparent side on said scanner next to said calibrated optical density scale.

1 9. A method as set forth in Claim 7 including the additional step of repeating steps a)
2 through e) a plurality of times to obtain an average lustre measurement.

1 10. A method as set forth in Claim 7 including the additional step of comparing said
2 intensity measurement against established parameters.

1 11. A method for testing as set forth in Claim 7 including the step of varying known
2 operating parameters during petroleum refining to alter said lustre measurement of said sample in
3 order to obtain a product with a desirable CTE.